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THE ECONOMICS OF RETAILING: PERSPECTIVE AND PROSPECTIVE

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This article provides a perspective and prospective view of three aspects of the economics of retailing: selected trends relevant to retailing activities, analyses of broad features of retailing institutions and analyses of narrowly defined characteristics of retailing activities.

One of the main trends identified is the rise of the service economy, including its substantial contribution to growth in advanced countries, the technological sophistication of some of its sectors, and the intangible nature of its outputs. The other one is the changes in economic and demographic characteristics of households, including increases in numbers of households and the opportunity cost of time as well as an increasing demand for flexibility in the timing of purchase activities. Analyses of broad features of retailing institutions addressing these trends are surveyed in the second section of the paper whereas analyses focused on selected features of retail institutions are surveyed in the last section.

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The Economics of Retailing:
Perspective and Prospective*

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I would like to thank the organizers of the conference, in particular Professors Thurik and Gianotten, for the invitation to address this distinguished audience on "the economics of retailing." In pursuing such a broad topic in a short span of time, it is convenient to have either a method or a message or perhaps both. The method I propose to follow is the identification of three aspects of the topic and the provision of both a perspective and a prospective on each of these aspects. The potential messages are left for the recipients of the ideas to elaborate. The three aspects are: Selected Trends Relevant to Retailing Activities; Analyses of Broad Features of Retail Institutions; and Analyses of Narrowly Defined Characteristics of Retail Institutions.

I. Selected Trends Relevant to Retailing Activities

The trends selected here are the ones that have caught my attention. Most scholars would agree on their significance but they would be likely to want to either enhance the list or modify the nuances emphasized here.

A. The Rise of the Service Economy

A substantial proportion of the resources of any society are devoted to the provision of services and the retail trade is part of the service sector. While this point is well known, some dimensions of it are either novel or our recognition of these dimensions is of recent vintage. To wit,

1. In advanced countries the contribution of services to growth has reached a high of 50 percent over the decades 1960-1980 (this contribution is 41 percent for nonindustrial countries), Syrquin (1988).

2. Some of the newer and faster growing service sectors (e.g. telecommunications services and computer services) are among the most technologically advanced and their products are increasingly used in all

economic activities, including the retail trade, for example optical scanning in supermarkets.

3. The outputs of service sectors, including the retail trade, are difficult to define and conceptualize because of their intangible nature.

Cognizance of these three aspects of the rise of the service economy, among other things, will erode the prejudice against viewing retailing as a standard economic activity.

B. Changes in Economic and Demographic Characteristics of Households

1. In advanced countries the average size of households has been diminishing. Since population has not decreased, this generates an increase in the demand for goods and services associated with the mere existence of households and the distribution system must produce higher levels of outputs, however we choose to define them.

2. In advanced countries, wage rates have been increasing over the long term. Thus, the opportunity cost of time of nonmarket labor activities, including purchasing activities, has been increasing at the same time than the costs of labor to retailers has been increasing.

3. In advanced countries multiple earner households have been increasing. Thus, the demand for flexibility with respect to timing in the provision of retail services has been increasing.

Neither the rise of the service economy nor these economic and demographic changes affecting households are likely to disappear or be reversed in the next ten years. Therefore, their impact on retailing activities is likely to continue and even intensify by the next century.

Indeed, most of the major changes in retailing activities over the next ten years are likely to be associated with these underlying factors.¹

II. Analyses of Broad Features of Retail Institutions

Until recently economists had largely left the analyses of retail institutions per se to other scholars, primarily marketing scholars. The latter responded in a number of ways. I will leave this literature for the next speaker to pursue, if he wishes. Instead, I will discuss here two strands of economic literature focusing on broad features of retail institutions per se.

A. The Dutch School

An important broad feature of retail institutions emphasized by this school is that most retail enterprises are small sized, e.g., in the Netherlands small sized retail enterprises were 96.6 percent of the total of retail enterprises in 1988. Thus, the contributions of this school have been undertaken as part of an ambitious research programme aimed at developing a complete model of small firm behavior. This programme is part of a cooperative effort of the Econometric Institute at Erasmus and the Research Institute for Small and Medium Sized Business at Zoetermeer. In this connection, it is worth noting that part of the dynamism of capitalist economies is generated through the birth and death of firms. For instance, it has been found that this is an important source of jobs in manufacturing, e.g., Davis and Haltiwanger (1990), and it may explain the importance of services contribution to the growth of output mentioned earlier. This important evolutionary process seems to affect small firms more than large

¹Note that by their very nature these factors operate differently at different stages of economic development. Here we are focusing on advanced countries.

and medium sized ones; hence, it justifies to some extent the attention devoted to them.

A discussion of the contributions of this strand of literature must mention Nootboom. He has had an enormous influence on this strand of literature either through his work or through his collaboration with others, some of whom are here today. An important contribution by Nootboom (1985) has been his challenging the relevance of economics in explaining retail margins. He has argued that "economic theory has nothing to offer for the empirical explanation of retail margins." Instead, he has offered a mark-up model as the basis for explaining retail margins. Subsequent contributions in collaboration with others, in particular Nootboom and Thurik (1985) and Nootboom, Kleijweg and Thurik (1988), have offered more elaborate mark-up models that can be reconciled with basic tenets of economic theory under certain circumstances. Indeed, this process culminates in an explicit profit maximizing model in a recent paper by Bode, Koerts and Thurik, ch. 3 in Bode (1990). A characteristic of this school is that the retail margin at the store level is viewed as the price charged by the store. Hence, Bode's recent book (1990) could have been titled Studies in the Explanation of Stores' Retail Margins rather than Studies in Retail Pricing.

Among the contributions of this school is the identification of a number of empirical regularities at the store level. For instance, a negative association between sales per store and the retail margin appears in every one of the five empirical studies reported by Bode (1990). What is striking about this result is that these five studies vary considerably in their econometric specification, including reduced form models, simultaneous equation models, and alternative forms of disequilibrium models. Similarly, advertising expenditures are found to be positively related to retail margins

in the smaller subset of models where they are included. The picture is a bit more mixed for assortment and service levels because these variables are measured differently in alternative empirical studies. Finally, another contribution of this school has been to identify an important policy issue-- hours of operation of retail establishments. The demographic changes identified earlier indicate that this issue will not go away; on the contrary, the need to address it will intensify and this task must be taken up in the future.

B. The American School

A broad feature of retail institutions stressed by this strand of literature lies in its view of the economic function of these institutions: namely, the provision of a set of implicit distribution services jointly with the goods and services explicitly sold by the retailers.² Betancourt and Gautschi (1988), building on the work of Coase (1937) and Bucklin (1966) among others, have been at the forefront of recent work along these lines. Among the contributions of this strand of literature is the identification of distribution services as outputs of retail firms as well as fixed inputs into the household production functions of consumers. An important implication of this conceptualization for demand analysis is that distribution services generate strong complementarities among the items in a retailer's assortment as well as between the items in the assortments of different retailers located in the same agglomeration, Betancourt and Gautschi (1990, 1991a). In a recent paper, Betancourt and Gautschi (1991b) also show that the pricing policies of retailers will be significantly affected by their decisions with

²At least five general categories of distribution services have been identified in this literature: accessibility of location, breadth and depth of assortment, assurance of product delivery at the desired time and in the desired form, information and ambiance.

respect to the levels of distribution services provided and they extend Bliss' (1988) analysis of the welfare consequences of price changes.

Perhaps because of their intangible nature these distribution services have been neglected in the literature, but the situation is changing. For instance, in a very insightful essay, Oi (1990) identifies a set of outputs of retail firms that exhibits considerable overlap with the set of distribution services suggested by Betancourt and Gautschi. Hanak (1991) applies this B-G framework to the analysis of retail banking and defines the nature of retail banking in terms of providing aspects of distribution services such as liquidity and insurance. Other authors also are beginning to ask the question of what is the output or function of a particular service institution? For instance, this question has been asked for the stock market by Bresnahan, Milgrom, and Paul (1990), and in the insurance industry, by Hornstein and Prescott (1990).

One task for current research is the empirical measurement of these distribution services and their use in explaining retail margins. A future research task in this area would be the integration of this broader view of distribution services with the narrower focused one represented in the empirical work of Ratchford and Stoops (1988, 1991). Another one would be the reconciliation of empirical results with the ones obtained by the Dutch school using store level data. In any event, this strand of literature provides a different perspective on some policy issues that are currently coming to the fore. For example, one of the subjects for discussion in connection with the Structural Impediments Initiative is whether the nature of the Japanese distribution system is a significant impediment to trade. The answer may hinge on one's view of the outputs of the distribution system. This policy issue is likely to be of interest over the next few years.

III. Analyses of Narrowly Defined Characteristics of Retail Institutions

In emphasizing broad features of retailing institutions the strands of literature discussed above provide a link to the early economic literature on retailing. Changes in economic theorizing, however, have lead to a shift in emphasis toward the analysis of more narrowly defined characteristics of institutions, including retail institutions. Hence, a substantial portion of the more recent economic literature on retailing is of this type. Two important trends in economic theory over the last twenty years are the explicit incorporation of uncertainty and informational issues into economic modelling as well as the development of game theoretic analysis of microeconomic issues. A characteristic of contributions to the strand of literature representing each trend is the selection of a particular feature of a problem which is analyzed in isolation from other features. The nature of theorizing and the desire for tractability are prime forces in generating this characteristic. Much has been learnt from these approaches and its applications to retailing have been equally fruitful. It is convenient to discuss these approaches in terms of the light they have shed on interactions between consumers and retailers as well as on the interactions between retailers and suppliers.

A. Interactions Between Consumers and Retailers

A common characteristic of the retailing environments is the existence of spatial price dispersion, i.e. different stores charging different prices for the same items during the same time period. Salop and Stiglitz (1977) demonstrate that the presence of informed and uninformed consumers allows equilibrium price dispersions to exist. Spatial price dispersion of this type, however, would be expected to disappear over time as the uninformed

consumers learn. Thus, Varian (1980) develops a model in which it pays firms to choose randomized pricing strategies so that consumers cannot learn by experience. This is one explanation for the existence of sales; of course Varian recognizes that there are other explanations extant in the literature. Nonetheless, this model can be used to justify the persistence over time of spatial price dispersion in a retail market.

More recent work on these issues takes on different forms. For instance, Lazear (1986) and Pashigian's (1988) work on clearance sales and markdowns focuses on a particular retailing sector and brings to bear empirical evidence on the implications of the analysis. More precisely, Pashigian (1988) develops a model where an increase in the demand for variety leads to higher markups and more frequent markdowns in industry equilibrium. These predictions are confronted with data for several merchandise groups within the apparel group and the data fails to reject them. Economists writing for marketing journals have focused on the welfare and public policy aspects of certain retailing practices. For example, Gerstner and Hess' (1990) welfare analysis of bait and switch policies by stores shows that these can be beneficial to consumers. Finally, recent game theoretic models generate equilibria in which clustering of firms takes place because it is costly to search for variety or to acquire information on prices. In the latter case, a driving force in the argument is the consumers' knowledge that the larger the number of firms in a cluster the lower the price as a result of competition, Dudey (1990).

The previous paragraph is a mere sampling of available literature. Interestingly, most of this literature assumes implicitly or explicitly a single product retailer. Furthermore, considering the wide variety of settings in which retailers and consumers interact, the flow of additional

contributions of this type is unlikely to stop in the near future. A pertinent question to raise, however, is whether some integration of these developments will be taking place. Another pertinent question is whether an empirical research programme can be established to discriminate among the plethora of theoretical models becoming available. In answering both questions it may be fruitful to join the broad based features of retailing emphasized earlier with the narrowly defined characteristics stressed here.

B. Interactions Between Retailers and Suppliers

Many contributions to the so-called vertical restraints literature are also relevant to the economics of retailing. This literature is quite extensive and it has been discussed elsewhere, for example Perry (1989) and Tirole (1988, ch. 4). Here, I will merely note several general points that are of special interest in the context of retailing.

In a deterministic setting many of the practices identified as vertical restraints can be shown to be mechanisms designed to eliminate externalities that exist in the interactions between retailers and their suppliers, e.g., Mathewson and Winter (1986). Thus, resale price maintenance (RPM) can be used to eliminate a horizontal externality in which discount retailers free ride on the provision of information by other retailers; franchise fees can eliminate the double marginalization problem; exclusive territories (ET) can eliminate the underprovision of selling effort. With the introduction of uncertainty, however, the beneficial effects of anticompetitive restraints are substantially changed relative to a situation of direct product competition by retailers. Rey and Tirole (1986) develop a model where in the absence of uncertainty a two part tariff is equivalent to RPM and ET. Nevertheless, in the presence of uncertainty ET uses decentralized information in a more efficient way than either competition or RPM; RPM

provides perfect insurance in the presence of demand uncertainty and no insurance with respect to cost uncertainty whereas competition has good insurance properties in both cases. This difference in results due to the introduction of uncertainty will continue to play an important role in future work.

One issue important for retailing and neglected in this literature is that the manufacturer or upstream firm may not always have all of the bargaining power. A second issue important for retailing and also neglected is that the set of distribution services implicitly transacted in every exchange imply the need to develop models which consider several dimensions of nonprice competition simultaneously. In addition there are other issues currently attracting attention in this literature which have implications for retailing, e.g., the analysis of vertical foreclosures in Ordover, Saloner and Salop (1990). Further work is not only likely to look at these issues but also to bring one or more of them together in the analysis.

IV. Concluding Remarks

By the way of a conclusion I would like to raise a question generated by juxtaposing two opposing trends. The breakdown of command economies in Eastern Europe and the Soviet Union has brought out the prejudices that existed against the distribution sector in these societies as well as the flexibility with which small units have formed to participate in this sector. At the same time the deregulation of several aspects of distribution in Western Europe has led to dramatic changes in the number of establishments in some retail sectors. For example, in France the number of supermarkets doubled between 1982 and 1988 whereas the number of 'boulangeries' decreased about 20 percent. With the advent of economic integration after 1992 are we going to witness a lengthening of distribution systems in Europe with its

concomitant decrease in availability of local products, including fresh foods, and increase in availability of internationally processed products?

An important factor in the answer will be the demand for distribution services of European consumers and the ability to supply these distribution services in an efficient manner of European retailers. While the density of population favors short distribution systems on the cost side, the rise of the service economy and the demographic trends identified earlier will push toward a lengthening of distribution systems. Of course, another important factor will be what happens to agricultural subsidies. In any event, I am looking forward to the contributions to all aspects of the economics of retailing that we will encounter the next two days.

References

- Betancourt, R. and Gautschi, D., "The Economics of Retail Firms," Managerial and Decision Economics, June 1988, 9, 133-142.
- _____, "Demand Complementarities, Household Production, and Retail Assortments," Marketing Science, Spring 1990, 9, 146-161.
- _____, "The Demand for Retail Products: New Views on Substitutability and Complementarity," forthcoming, Journal of Economic Behavior and Organization.
- _____, "Two Essential Characteristics of Retail Markets and Their Economic Consequences," mimeo, revised January 1991.
- Bliss, C., "A Theory of Retail Pricing," Journal of Industrial Economics, June 1988, 26, 372-391.
- Bresnahan, T., Milgrom, P. and Paul, J., "The Real Output of the Stock Exchange," paper presented to the NBER Conference on Output Measurement in the Services Sector, Charleston, South Carolina, May 1990.
- Bode, B., Studies in Retail Pricing, Rotterdam Ph.D. Thesis, 1990.
- Bucklin, L.P., A Theory of Distribution Channel Structures, Berkeley Institute of Business and Economic Research, University of California, 1966.
- Coase, R., "The Nature of the Firm," Economica, 1937, 4, 386-405.
- Davis, S. and Haltiwanger, J., "Gross Job Creation and Gross Job Destruction: Microeconomic Evidence and Macroeconomic Implications," NBER Macro Annual 1990.
- Dudey, M., "Competition of Choice: The Effect of Consumer Choice on Firm Location Decisions," American Economic Review, December 1990, 80, 1092-1104.
- Gerstner, E. and Hess, J., "Can Bait and Switch Benefit Consumers," Marketing Science, Spring 1990, 9, 114-124.
- Hanak, E., "A Service-Based Theory of Retail Banking," in Betancourt, R. and Gautschi, D. (eds.), The Analysis of Retail Activities: Implicit Markets for Distribution Services, Special Issue of Managerial and Decision Economics, forthcoming 1991.
- Hornstein, A. and Prescott, E., "Measures of the Insurance Sector Output," paper presented to the NBER Conference on Output Measurement in the Services Sector, Charleston, South Carolina, May 1990.
- Lazear, E., "Retail Pricing and Clearance Sales," American Economic Review, March 1986, 76, 14-32.

- Mathewson, G. and Winter, R., "The Economics of Vertical Restraints in Distribution," in Stiglitz, J. and Mathewson, G. (eds.), New Developments in the Analysis of Market Structure, Cambridge, Mass.: The MIT Press, 1986.
- Nooteboom, D., "A Mark-up Model of Retail Margins," Applied Economics, 1985, 17, 647-667.
- _____ and Thurik, A.R., "Retail Margins During Recession and Growth," Economics Letters, 1987, 17, 281-84.
- _____, Kleijweg, A., and Thurik, A.R., "Normal Costs and Demand Effects in Price Setting: A Study of Retailing," European Economic Review, April 1988, 32, 999-1011.
- Oi, Walter, "Productivity in the Distributive Trades: The Shopper and the Economics of Massed Reserves," paper presented to the NBER Conference on Output Measurement in the Services Sector, Charleston, South Carolina, May 1990.
- Ordover, J., Saloner, G., and Salop, S., "Equilibrium Vertical Foreclosure," American Economic Review, March 1990, 80, 127-142.
- Pashigian, B. Peter, "Demand Uncertainty and Sales: A Study of Fashion and Markdown Pricing," American Economic Review, December 1988, 936-953.
- Perry, M., "Vertical Integration: Determinants and Effects," ch. 4 in Schmalensee, R. and Willig, T., Handbook of Industrial Organization, Amsterdam: North-Holland Publishing Co., 1989.
- Ratchford, B. and Stoops, G., "A Model and Measurement Approach for Studying Retail Productivity," Journal of Retailing, Fall 1988, 64, 241-263.
- _____, "An Econometric Model of a Retail Firm," in Betancourt, R. and Gautschi, D. (eds.), The Analysis of Retail Activities: Implicit Markets for Distribution Services, Special Issue of Managerial and Decision Economics, forthcoming 1991.
- Rey, P. and Tirole, J., "The Logic of Vertical Restraints," American Economic Review, December 1986, 76, 921-939.
- Salop, S. and Stiglitz, J., "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion," Review of Economic Studies, October 1977, 44, 493-510.
- Syrquin, M., "Patterns of Structural Change," Ch. 7 in Chenery, H. and Srinivasan, T., Handbook of Development Economics, Amsterdam: North-Holland Publishing Co., 1988.
- Tirole, J., The Theory of Industrial Organization, Cambridge, Mass.: The MIT Press, 1980.
- Varian, Hal, "A Model of Sales," American Economic Review, September 1980, 70, 651-659.